

What is claimed is:

1. An image forming apparatus comprising:

image forming means performs image formation for forming a toner image and transferring said toner image on a recording medium;

heating means for heating a toner carried on said recording medium as forming said toner image, thereby fixing said toner image to said recording medium; and

control means for controlling said heating means to a predetermined temperature by switching on/off the energization of said heating means,

wherein said control means controls the energization of said heating means based on a timing signal associated with a timing of delivering said recording medium from said image forming means to said heating means.

2. An image forming apparatus of Claim 1, wherein said control means uses a repetition signal associated with the delivery timing of said recording medium as said timing signal, and controls the temperature of said heating means by adjusting an energization time of said heating means in one cycle of said repetition signal.

3. An image forming apparatus of Claim 1, wherein said control means switches on the energization of said heating means a

predetermined length of time in advance of a moment that a leading end of said recording medium with respect to a delivery direction of said recording medium arrives at a heating position in which said heating means heats said recording medium.

4. An image forming apparatus of Claim 3, wherein said image forming means is capable of selectively performing, as said image formation, any one of plural operation modes to form said toner image in individually different manners, and

said predetermined length of time is defined for each of said plural operation modes.

5. An image forming apparatus of Claim 3, wherein said control means is capable of re-defining a control target temperature for said heating means and besides, defines said predetermined length of time according to said control target temperature.

6. An image forming apparatus of Claim 1, wherein when the fixing of said toner image to said recording medium is not carried out, said control means makes adjustment per given control time period for adjusting the energization time of said heating means in the control time period.

7. An image forming apparatus of Claim 1, further comprising

temperature sensing means for sensing the temperature of said heating means, wherein said control means controls the temperature of said heating means based on the sensing result.

8. An image forming apparatus of Claim 7, wherein said control means decides the energization time of said heating means based on said timing signal and the sensing result given by said temperature sensing means.

9. A fixing-temperature control method for an image forming apparatus which fixes a toner image onto a recording medium by heating toners by way of heating means, the toners carried on said recording medium as forming said toner image, comprising the steps of:

outputting a timing signal associated with a timing of delivering said recording medium to said heating means; and

controlling said heating means to a predetermined temperature by switching on/off the energization of said heating means based on said timing signal.

10. An image forming apparatus comprising:

image forming means performs an image formation for forming a toner image and transferring said toner image on a recording medium;

heating means for heating a toner carried on said recording medium as forming said toner image, thereby fixing said toner image to said

recording medium; and

control means for controlling said heating means to a predetermined temperature by adjusting an energization time period of said heating means in a predetermined control period,

wherein said control means defines a length of said control period to be N or $1/N$ (N representing a natural number) times the period of a periodic signal associated with a timing of delivering said recording medium from said image forming means to said heating means.

11. An image forming apparatus of Claim 10, wherein said image forming means further comprises an intermediate transfer medium rotatably movable in a predetermined direction, and transfers said toner image carried on said intermediate transfer medium, and

wherein a period of said periodic signal is associated with a rotational period of said intermediate transfer medium.

12. A fixing-temperature control method for an image forming apparatus which fixes a toner image onto a recording medium by heating toners by way of heating means, the toners carried on said recording medium as forming said toner image, comprising the steps of:

outputting a periodic signal associated with a timing of delivering said recording medium to said heating means; and

controlling said heating means to a predetermined temperature by adjusting an energization time of said heating means within a control

period which is defined to be N or $1/N$ (N representing a natural number) times the period of said periodic signal.

13. An image forming apparatus comprising:

image forming means which has an intermediate transfer medium rotatably movable in a predetermined direction and which performs an image formation for forming a plurality of toner images of different colors and forming a color image by superimposing said toner images on top of each other on said intermediate transfer medium;

signal generating means for outputting a synchronous signal corresponding to a rotating motion of said intermediate transfer medium;

heating means for heating toners carried on said recording medium as forming said color toner image, thereby fixing said color toner image to said recording medium; and

control means for controlling said heating means to a predetermined temperature by switching on/off the energization of said heating means,

wherein said control means controls the energization of said heating means based on said synchronous signal.

14. An image forming apparatus of Claim 13, wherein said control means controls said heating means to the predetermined temperature by repeating a temperature control operation of adjusting an energization time of said heating means in one cycle and besides, changes

the period of the temperature control operation according to an output period of said synchronous signal.

15. An image forming apparatus of Claim 13, wherein said control means controls a delivery timing of said recording medium based on said synchronous signal, the recording medium delivered from said transferring means to said heating means.

16. An image forming apparatus of Claim 13, wherein said control means switches on the energization of said heating means a predetermined length of time in advance of a moment that a leading end of said recording medium with respect to a delivery direction of said recording medium arrives at a heating position in which said heating means heats said recording medium.

17. An image forming apparatus of Claim 16 in which said image forming means is capable of selectively performing, as said image formation, any one of plural operation modes to form said toner image in individually different manners,

wherein said predetermined length of time is defined for each of said plural operation modes.

18. An image forming apparatus of Claim 16, wherein said control means is capable of re-defining a control target temperature for

said heating means and besides, defines said predetermined length of time according to said control target temperature.

19. An image forming apparatus of Claim 13, wherein when the formation of the color toner image is not carried out, said control means makes adjustment per given control time period for adjusting the energization time of said heating means in the control time period.

20. An image forming apparatus of Claim 13, further comprising temperature sensing means for sensing the temperature of said heating means, wherein said control means controls the temperature of said heating means based on the sensing result.

21. An image forming apparatus of Claim 20, wherein said control means decides the energization time of said heating means based on said synchronous signal and the sensing result given by said temperature sensing means.

22. A fixing-temperature control method for an image forming apparatus which transfers a color toner image to a recording medium, the color toner image formed by superimposing toner images of multiple different colors on top of each other on an intermediate transfer medium rotatably movable in a predetermined direction and which fixes said color toner image onto said recording medium by heating toners by way of

heating means, the toners carried on the recording medium as forming the color toner image, comprising the steps of:

outputting a synchronous signal associated with the rotating motion of said intermediate transfer medium; and

controlling said heating means to a predetermined temperature by switching on/off the energization of said heating means based on said synchronous signal.